

NORTH AMERICAN FRESHWATER CATFISH FAMILY—ICTALURIDAE

Members of this family are easily recognized by their scaleless bodies, long barbels about the mouth, and sharp, heavy pectoral and dorsal spines. None of the species in California are natives of the State.

In their native habitat, the channel, blue, and flathead catfishes are inhabitants mainly of large rivers and lakes, while bullheads are found more in smaller streams and lakes and quieter portions of large waters. The preferred habitat of white catfish is often intermediate.

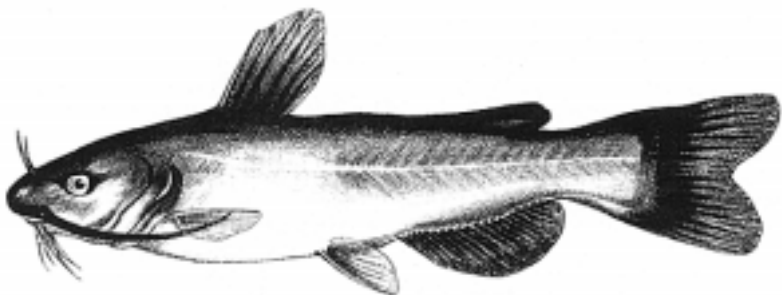
In California, most of the catfishes have adapted to a wide range of environmental conditions. They are most common and do best in the lowland waters of the State. Unfortunately, some, usually brown bullhead, have been introduced into mountain lakes and reservoirs, where they have become so abundant that they have crowded out the trout which would normally thrive there. In such inappropriate habitat they remain too small to be of any real value as a sport fish.

In our lowland lakes and rivers catfishes provide a lot of good food and sport for California anglers, although when first introduced (1874) they were not widely accepted. Catfish now rank third in total catch, below trout and panfish, from the inland waters of California. There are very large catfish fisheries in the Sacramento-San Joaquin Delta, the reservoirs of the California Water Project, and the Colorado River.

Many anglers have difficulty in distinguishing bullheads from other catfishes. Generally, bullheads have squared or rounded tails while other catfish in California have forked tails. The exception to this is the flathead catfish, which has a square tail as do bullheads. They are easily separated, though, by the flathead catfish's underslung jaw (lower jaw is much longer than upper jaw). Bullheads have jaws nearly equal in length.

WHITE CATFISH

Ictalurus catus



DISTINGUISHING CHARACTERISTICS

Bluish to grayish above and silvery below. Tail deeply forked, 19 to 23 rays in the anal fin.

DISTRIBUTION IN CALIFORNIA

This catfish is abundant in central and northern California and is found in most suitable warmwater areas there. About 95% of the catfish caught in the Sacramento-San Joaquin Delta are white catfish. It was introduced into the San Joaquin River near Stockton in 1874, from the Raritan River, New Jersey.

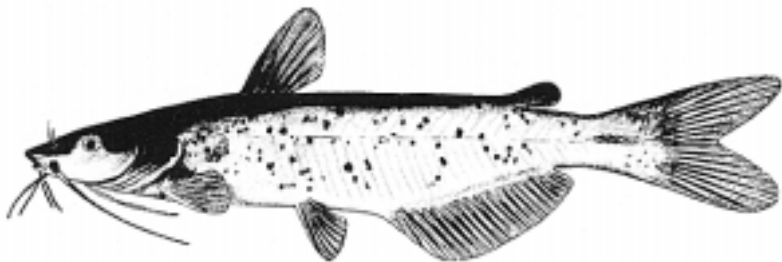
LIFE HISTORY NOTES

White catfish inhabit a variety of fresh or slightly brackish waters, usually preferring water 70°F or warmer. They do well in both large reservoirs and small ponds, as well as large, slow rivers in both fresh and brackish water. As with most catfish, they are mainly carnivorous; fish, insects, crustaceans, mollusks, and frogs contribute to their diet. Some fish eggs are also taken.

White catfish in California generally attain sexual maturity when 7 or 8 in. long, in their third or fourth year of life. Spawning takes place in the summer when water temperatures reach 70°F. Eggs are laid in a nest and may be covered with gravel. One or both parents guard the eggs; the male cares for the young. White catfish may reach weights of 6 lb but seldom exceed 3. They are very popular sport fish in the Delta.

CHANNEL CATFISH

Ictalurus punctatus



DISTINGUISHING CHARACTERISTICS

Bluish on back, whitish below and on sides. Most easily confused with blue and white catfish, but can be distinguished by one or more of the following features: small irregular spots on sides, which may be obscure or absent in large specimens; tail deeply forked, with pointed lobes; 24 to 29 rays in anal fin. Recognized also by its relatively narrow head when compared with the broad head of white catfish.

DISTRIBUTION IN CALIFORNIA

In recent years, the channel catfish has been stocked in many reservoirs, both large and small. The earliest records indicate that it was introduced into the San Joaquin River near Stockton in 1874 from the Mississippi Valley. In 1891, it was planted in Lake Cuyamaca, San Diego County, and in the Feather River. Apparently only the Feather River plant was successful. The channel catfish is one of the most abundant species of catfish in the Colorado River. The earliest documented record of its existence there is 1932, although steamboat captains' logs report channel catfish in the river before 1909. In the Sacramento River drainage, it appears in substantial numbers in a roughly triangular area bounded by Colusa on the Sacramento River, Marysville on the Feather River, and the confluence of the two rivers to the south of these two points. In this general area it is most abundant in the Sutter Bypass.

Channel catfish are reared commercially by many fish farmers in California. Many of these farms allow public fishing on a pay-for-what-you-catch basis.

In 1971, the Department's Imperial Valley Warmwater Fish Hatchery began rearing channel catfish for stocking public waters. Most of these fish are placed in southern California reservoirs where angler demand is intense.

LIFE HISTORY NOTES

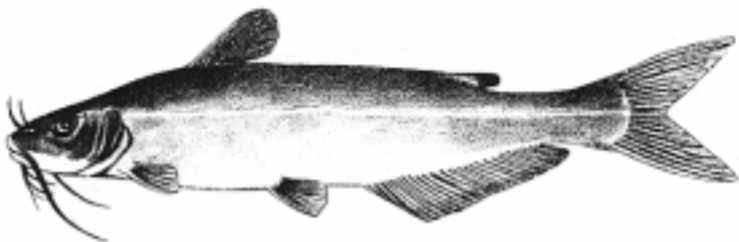
These are the most active of the catfish and they grow quite large. Some fish reach 18 to 19 in. at age 4. The world record is 58 lb. Their large size and excellent eating qualities make them prized sport fish.

Channel catfish prefer large rivers and lowland lakes with fairly clean bottoms of sandy gravel or boulders; however, they have adapted to a wide range of environmental conditions. They spend their days in deep holes, under logs or other shelter, and feed in shallow water at night. Channel catfish are omnivorous. The young eat insects with some small fish and plant seeds in their diet. Larger fish are mostly fish eaters. Growth is best when the water is 70°F or warmer.

Spawning occurs in the spring when water temperatures are between 70 and 85°F, although 80°F seems to be optimal. Nests are built in secluded, semidarkened sites, and the males vigorously guard both the eggs and the newly-hatched young.

BLUE CATFISH

Ictalurus furcatus



DISTINGUISHING CHARACTERISTICS

Quite easily confused with the channel catfish because of similar shape, coloration, and presence of spots on young. Can be distinguished by presence of 30 to 35 rays in the anal fin, and by a more pronounced angular rise to its back, originating just behind the head and continuing to the origin of the dorsal fin. The anal fin, which is about one-third the length of the body, minimizes confusion with the white catfish.

DISTRIBUTION IN CALIFORNIA

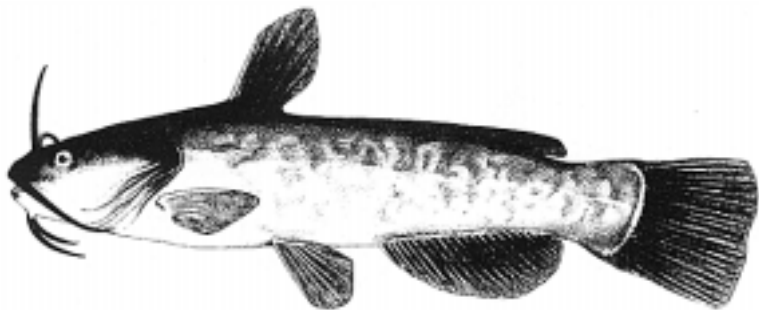
Blue catfish were introduced into Lake Jennings, San Diego County, from Stuttgart, Arkansas, by the Department of Fish and Game in 1969. Since then, the species has been introduced into Sutherland Reservoir, El Capitan Reservoir, San Vicente Reservoir, and the Santee Lake chain, San Diego County; and into northern California.

LIFE HISTORY NOTES

Blue catfish, largest of American catfishes, may reach weights over 100 lb in their native ranges. They are found in large rivers from Minnesota and Ohio southward into Mexico. Although growth is best at water temperatures over 80°F, they can withstand temperatures from 32 to 98°F. Spawning occurs in June and early July at water temperatures of about 70 to 75°F. Nests, similar to those of the channel catfish, are constructed under overhanging rock ledges, along deeply undercut banks, and in other sheltered places. Feeding habits are generally similar to those of the bottom-feeding channel catfish. Young blue catfish feed primarily on microscopic-sized animals, while adults feed principally on insects, worms, leeches, snails, crayfish, and fish.

BROWN BULLHEAD

Ictalurus nebulosus



DISTINGUISHING CHARACTERISTICS

Back more or less dark brown, belly gray to yellowish; sides and back typically mottled. Pectoral spine strongly barbed on rear edge; offers resistance when grasped by thumb and forefinger; tail squarish; not deeply forked. The membrane between the tail rays is clear; not colored.

DISTRIBUTION IN CALIFORNIA

In California, this is the most widely distributed member of the catfish family, occurring in most suitable warmwater areas. It was first planted in 1874 from Lake Champlain, Vermont, in ponds and sloughs near Sacramento.

LIFE HISTORY NOTES

Brown bullhead prefer deep, weedy waters with sand, gravel, or muck substrates in warmwater ponds, lakes, or sluggish streams. They can live in waters with temperatures between 32 and 98°F, although optimum growth occurs at temperatures from 68 to 95°F. They can also tolerate relatively low oxygen levels.

Brown bullhead feed near the bottom throughout the day. Diet consists of fish, crayfish, algae, fish eggs, insects, and leeches. Sexual maturity is normally reached at age 3, and spawning occurs when water temperatures near 70°F. Nests are built in sand or mud in shallow weedy areas. The parents protect both the eggs and the school of young for several weeks after hatching. At hatching, the fry are black and about ¼ in. long. Brown bullhead can grow to over 12 in. long, although most are usually smaller.

This is usually the first species taken in numbers after the midwinter slump in fishing. It is very prolific and often overproduces with the resultant populations becoming stunted. For this reason, the species is usually regarded as a nuisance in trout lakes.

BLACK BULLHEAD

Ictalurus melas



DISTINGUISHING CHARACTERISTICS

Coloration similar to that of brown bullhead but usually not mottled. Fin membranes generally black. Pectoral spine weakly barbed on rear edge; offers little resistance when grasped by thumb and forefinger. Tail squarish; not deeply forked. Belly frequently brassy or golden.

DISTRIBUTION IN CALIFORNIA

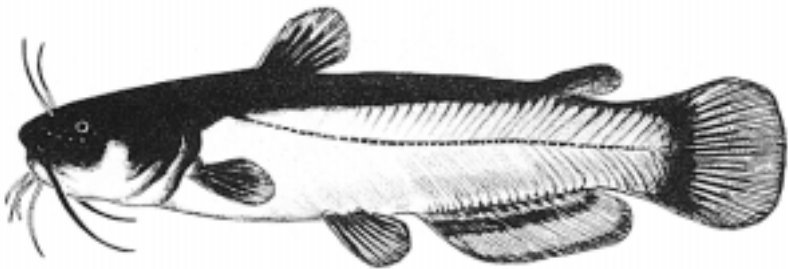
The black bullhead has been reported from several widely scattered waters throughout the State. It is possible that it is more widely distributed than has been thought, and has been overlooked because of its resemblance to the brown bullhead. Records of its introduction are not clear but it was probably introduced with other catfishes in 1874 from the Mississippi Valley into the Sacramento and San Joaquin rivers. It was first reported from the Colorado River in 1942. Some fishable populations are present in large, low elevation lakes and reservoirs.

LIFE HISTORY NOTES

Black bullhead prefer warmwater ponds and sloughs and sluggish streams. They are often found in shallow and silty water and are highly tolerant of warm water and pollutants. They are omnivorous; their diet includes insects, worms, mollusks, fish eggs, fish, and plant material. Reproduction is similar to that of the brown bullhead. The adults guard the eggs and then the young until the fry are about 1 in. long. Though populations in small lakes and reservoirs often stunt, black bullhead can grow to over 10 in. long.

YELLOW BULLHEAD

Ictalurus natalis



DISTINGUISHING CHARACTERISTICS

Color variable. Back several shades of brown to almost black; belly more-or-less yellow. Tail rounded, not forked. Chin barbels whitish, compared with gray to black barbels of brown and black bullheads. Anal fin rays 24 to 27 compared with 17 to 24 in brown and black bullheads.

DISTRIBUTION IN CALIFORNIA

As with the black bullhead, the history of its introduction is unclear. It may have been introduced with other catfishes in 1874 from the Mississippi Valley into the Sacramento and San Joaquin rivers and is still present in small numbers in sloughs. It is largely restricted to the Colorado River drainage, becoming established there sometime before 1942 when it was first reported. It may also exist in a few southern California reservoirs and has been reported from Lost River, Modoc County.

LIFE HISTORY NOTES

The yellow bullhead prefers the shallow portions of lakes, ponds, and low-gradient streams. It is found in clear water areas in which there is an abundance of aquatic vegetation. Principal foods are insects, crustaceans, mollusks, small fishes, and plant material.

Yellow bullhead usually mature in their third year. Spawning habits resemble those of other bullheads, except that the males guard the young until they are about 2-in. long. Yellow bullhead can grow to over 13 in. long.

FLATHEAD CATFISH

Pylodictis olivaris



DISTINGUISHING CHARACTERISTICS

Coloration generally brown, with dark brown to olive and yellow mottlings on back and upper sides. Abdomen much lighter. Tail squarish, only slightly forked. Head broad and flat compared to other catfishes. Lower jaw longer than upper. Anal fin with 14 to 17 rays.

DISTRIBUTION IN CALIFORNIA

Flathead catfish were introduced into the Colorado River near Yuma in 1962 by the Arizona Game and Fish Department. Young-of-the-year were captured in the Highline Canal and several water supply ditches in California's Imperial Valley during early 1968. Flathead catfish have spread upstream in the Colorado to the Blythe area and have moved throughout the Imperial Valley canal system. In 1980, a flathead catfish was captured in the Bill Williams Arm of Lake Havasu, San Bernardino County, 162 miles upstream of the original introduction site.

LIFE HISTORY NOTES

Flathead catfish are found mainly in large, muddy rivers and reservoirs, and apparently prefer deep holes. They are mostly nocturnal feeders eating insect larvae, crayfish, mollusks, worms, and fish. Spawning occurs in early summer. Nests are built in large depressions either in river banks or else against logs and submerged obstructions. After spawning, the males guard both the eggs and, for a short time, the young.

In the Colorado River, growth rates seem to be rapid, and several fish in the 50-lb class were recorded in 1980. In the Midwest, where they are native, flathead occasionally reach 100 lb in weight. Fish weighing 20 lb are not uncommon.